

Name: \_\_\_\_\_

**at1113exam: Expand, factor, and solve quadratics (v305)**

1. Expand the following expression into standard form.

$$(2x + 7)(2x - 7)$$

$$4x^2 - 14x + 14x - 49$$
$$4x^2 - 49$$

2. Expand the following expression into standard form.

$$(9x - 5)^2$$

$$81x^2 - 45x - 45x + 25$$
$$81x^2 - 90x + 25$$

3. Expand the following expression into standard form.

$$(9x + 8)(2x + 5)$$

$$18x^2 + 45x + 16x + 40$$
$$18x^2 + 61x + 40$$

4. Solve the equation.

$$(9x - 4)(3x + 2) = 0$$

$$x = \frac{4}{9} \quad x = \frac{-2}{3}$$

5. Solve the equation.

$$6x^2 + 9x - 7 = 3x^2 + 4x + 5$$

$$3x^2 + 5x - 12 = 0$$

$$(3x - 4)(x + 3) = 0$$

$$x = \frac{4}{3} \quad x = -3$$

6. Factor the expression.

$$25x^2 - 64$$

$$(5x - 8)(5x + 8)$$

7. Solve the equation with factoring by grouping.

$$10x^2 + 15x + 12x + 18 = 0$$

$$(5x + 6)(2x + 3) = 0$$

$$x = \frac{-6}{5} \quad x = \frac{-3}{2}$$

8. Factor the expression.

$$x^2 + 11x + 24$$

$$(x + 3)(x + 8)$$